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A Brief Review
of certain aspects
of the
SAN BLAS CUNA INDIANS

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SPECIAL OPERATIONS RESEARCH OFFICE

THE AMERICAN UNIVERSITY
WASHINGTON 16, D.C.



OPERATING UNDER CONTRACT WITH THE
DEPARTMENT OF THE ARMY

A BRIEF REVIEW OF SELECTED ASPECTS
OF THE SAN BLAS CUNA INDIANS

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I. INTRODUCTION

This brief study is intended to provide a picture of the culture of the San Blas Cuna Indians living in the archipelago situated off the eastern Caribbean coast of the Republic of Panama, with particular reference to medical problems. It has been prepared in response to a request submitted under date of 9 November 1964 by the Commanding Officer, 3rd Civil Affairs Detachment, Fort Clayton, Canal Zone, to the Director, Special Operations Research Office. CINPAC has been designated the action agency. The study is intended to provide background information to military personnel responsible for military civic action programs designed to ameliorate unsatisfactory health conditions among the San Blas Indians.

In addition to the San Blas Cuna on which this paper is primarily focused, certain socio-cultural aspects of the Bayano Cuna, one of the mainland Cuna tribes, are also discussed. This latter group has developed somewhat differently since they have by choice remained on the mainland rather than move to the islands for protection.

Research has revealed a very limited amount of literature from scientific medical investigation of the Cuna Indians of the San Blas Islands. It has been necessary, therefore, to place considerable reliance on material contained in reports prepared by anthropologists, sociologists, missionaries, and other non-medical observers.

In the preparation of this study information has been gathered from: material on file in SORO; Panamanian Government reports on census and health; the Pan American Health Organization; the Pan American Union; The Human Relations Area Files (HRAF); The Library of Congress; the National Geographic Society; and the library of the Walter Reed Army Medical Center, Washington, D.C.

II. GENERAL

Geography

Along the Caribbean coast of Panama are grouped the islands known as the Mulatas Archipelago (Archipelago de Las Mulatas). There are about 365 of these low-lying (in most cases less than three feet above high tide), sandy, coralline, islands extending along the coast to the east and south for about 100 miles between San Blas Point and the Colombian border. They are so well protected by reefs that sizeable vessels cannot approach. The majority of these islands are too small for habitation and support only palm trees. About 30 which lie within a mile or so of the mainland, however, are occupied by the San Blas Cuna Indians.

The suitability of these islands for habitation is determined by their proximity to the mainland and to a river mouth. Since there is no room on the islands for general agriculture, the inhabitants must grow their crops on the mainland, and they must go to the rivers on the mainland each day to obtain fresh water for drinking and cooking.

History

It was along this coast that the Spanish explorer Rodrigo de Bastidas sailed in October 1500, accompanied by a young seaman named Vasco Nunez de Balboa. When the latter returned to this area in 1513 and became the first European to view the Pacific Ocean, his safe arrival on the other side of the Isthmus was due partly to the friendship of the ancestors of today's San Blas Indians.

When Columbus explored the San Blas coast in 1502, the Caribe-Cunas--then numbering about 750,000--were spread the width of the Isthmus, but the ancestors of the present San Blas Cuna were concentrated mainly near Mount Tacarcuna. The subsequent search of the Spaniards for gold and silver, with its attendant cruelty, caused these Indians to resist incursion and to acquire the reputation of being a hostile tribe. Another contributing factor was the use of the San Blas area as the famous Pirate Coast, when Caribe-Cuna men were taken as sailors by British buccaneers who preyed on Spanish shipping.

As a result of all these depredations, the San Blas Cunas were eliminated from south of the Cordillera and were reduced to 10,000 or less.¹

In their natural environment, the San Blas Indians are neither savage nor cruel, regardless of the reputation they developed during the past. However, during the last half of the nineteenth century some of the survey parties which ventured into the territory of the San Blas Cuna in their search for a canal route, met opposition from the Indians. In the present century, increasing numbers of San Blas Cunas have left the mountains to live on the off-shore islands.

Ethno-history

Richard N. Adams, an eminent anthropologist whose specialty is the Indians of Central America, writes:

"In general, systematic knowledge on most of the Panamanian Indians is lacking. Of the three major groups only the Cuna have received intensive study during the past three decades. The anthropologists most concerned with them have been Nordenskiold, Wassen, Holmer, and Stout. . . . While there is fairly adequate basic ethnological data available on this group, and historical perspective on the acculturation of the San Blas Cuna has been provided by Stout, the problems presented by public health and welfare work will demand additional research. . . ."²

The two outstanding aboriginal ethnic groups in southeastern Panama are: (1) the Choco, also known as Chocoi, Chokoe, or Sambu-Choco, living on the southern or Pacific slope; and (2) the Cuna, variously termed Bayano Cuna, Mountain Cuna, Paya, Cunas Bravas, Chucuras, Navagandis, and Tule (Towali) or San Blas Cuna. There is a possible cultural affiliation between the Cuna and the south American west coast tribes, with the Maya of Yucatan, and with the old Cueva peoples to the North. Cueva is an old Spanish term for Cuna.³ Whatever their historical connections may have been, the Indians of the San Blas coast trace their origin or racial affiliations to their creation by the God Olokuppilele at Tacarcuna Mountain, west of the mouth of the Atrato River.

In his study on "Material Culture of the People of Southeastern Panama," which was made in 1926, Herbert W. Krieger gave by villages the estimated population of the San Blas Islands (see Appendix 1). In this study he pointed out that several of the "villages" are composites of one or more of the small islands. These figures are interesting only in that they show the relative village population size.

While the Cuna Indians had settlements on the San Blas Islands at the time of the Spanish conquest, the ancestors of the present Island Cuna lived on the mainland along the numerous rivers on both sides of the Cordillera until about 1850. Since then the greater part of the group has moved to the surrounding islands, leaving several groups behind on the mainland. Among these are the Bayano Cuna (Yalatola, or Mountain People, of which there are about 1800 living in the area between the Sierras of San Blas and Canazas), the Chucunaque (Walatola), the Payatola (now almost extinct), and one group living at Arquia, Colombia. The present populations of these latter groups are not known.⁴

The Cuna population of Colon Province, according to the official Government Census of 1940, is reported to have been 20,830, an increase of over 37 percent between 1930 and 1940. It then decreased about 17 percent during the years 1947-1957.⁵

According to the 1950 Census of Indians there were in the district of Comarca de San Blas (Colon Province) approximately 17,350 out of Panama's total Indian population of over 48,600. The largest Indian group is that known as the Guaymi, which comprises 52.3 percent of the entire Indian population of the country. The Cuna Indians who make up 40.5 percent of the Indian population, are the second largest group. The Choco make up the third largest group. While the total Indian population of Panama comprises only 6 percent of the country's total population, it accounts for almost 10 percent of the total rural population.⁶

The Cuna of the San Blas area, living on islands, are probably less affected by endemic disorders of an insect-infested jungle coast; their social solidarity, their better houses, their practice of monogamous marriages (with exceptions), the proud preservation of their tribal isolation, their ability to travel from one island to another by way of water transport--all have combined to make them a unique culture group.

Ethnocentrism

The San Blas Cuna are independent people. Their chief characteristic has been and continues to be a persistent determination to preserve their cultural and racial structure against pressures from the outside. They look with a jaundiced eye upon any possible threat to their way of life, which unlike many other aboriginal groups, they have been eminently successful in preserving.

Once it was certain death for a white person to be found on the San Blas islands after nightfall, and today outsiders are normally not permitted to remain on the islands overnight. However, in the more sophisticated communities of Porvenir, Nargana and Corazon de Jesus, exceptions are made. For example, missions and schools have existed in these communities for some years, with foreign missionaries and teachers maintaining permanent residence. Occasionally, at the specific invitation of a village chief, a distinguished guest may be permitted to spend the night, but he is expected to remain in the accomodations which are assigned to him.

The San Blas Cuna have retained a purity of race that is remarkable. Half-breeds are not socially accepted. Formerly few females were ever allowed to depart from the islands to visit the city of Colon or other points; today, however, this is not an uncommon occurrence. Should a Cuna woman become too familiar with a foreigner visiting the islands, or if she should bear a child not of her own race, the baby is put to death and the erring woman is left on one of the smaller uninhabited islands to die.

In 1922 the Panamanian Government decided that the San Blas group should be brought under control and sent a detachment of national police to the islands. In 1925 the Cuna were outraged by the molestation of their women by the policemen and took up arms against them. Twenty-two policemen and twenty of their own people suspected of being traitors were killed. Additionally, several children half negro and half San Blas, together with their mothers, were killed. Since that time the San Blas Cuna have been at peace with the outside world. It is evident that the San Blas Cuna are determined to retain at any price their racial and cultural identity.

Language

The Cuna tongue is commonly believed to be affiliated with the Chibchan languages centered in South America. Certain scholars, however, have questioned this classification, suggesting that Cuna is, rather, a member of a now largely extinct linguistic group.

The missionaries have devised a written language. De Smidt writes that the language is not as simple as some persons are prone to believe. Their system of numbers, he adds, goes up to a thousand. Above that figure they use Spanish terms. Their verbs are conjugated in the present, past and future tenses. Persons familiar with the language estimate that it contains at least six thousand words.⁸

The same language is spoken among all the Cuna groups although the Payatola group had evidently more Spanish words in their vocabulary. Of the San Blas Cuna, 2,448 of the 13,389 people over 7 years of age in 1950, or 18.3 percent, speak Spanish in the home. Of the mountain Cuna, the Chepo people all speak the Cuna language in the home, and only 70 of 1,304, or 5.4 percent, also speak Spanish.

Life Cycle

Females, on reaching maturity, are confined to their huts and given a series of ceremonial baths. Then, about August when the crops have been harvested, their hair is ceremoniously cut, accompanied by much singing and drinking of chicha (a fermented drink made out of sugar-cane juice and ground corn pre-masticated by the elderly women).

Marriages are generally arranged by the fathers of the couples, with the father of the girl usually assuming the initiative. Quite often these marriage arrangements are made during the puberty ritual. Occasionally a young man will be successful in having his father arrange a marriage with a girl of his own choice. Subsequent marriages are usually arranged by the principals themselves and do not require family consent.⁹

The fathers, after a match has been arranged, notify the marriage-officiator, who comes with his assistants carrying the groom-to-be to the girl's house. The man is placed in a hammock and his fiancee is brought to him. After a few minutes they both arise

and bathe. The procedure is repeated four times. After the fifth bath they remain in the hammock all night, but neither may sleep, nor are any sexual advances permitted. The next morning the young man procures firewood from the mainland, an act which serves to officially seal the marriage. Consummation of the marriage takes place on a succeeding night. The bride usually has her hair cut short as a symbol of her new position.

On some islands each bath takes place on a successive night, thus involving five days and nights. If the man does not wish to go through with the marriage, he may run away after the first bath.

First marriages usually occur between the ages of 18 to 20 in the case of the men, and between the ages of 15 to 17 in the case of the girls. It is always considered desirable to marry within one's own economic stratum. Infrequently island men marry women from mainland villages, and it is even more rare for mainland men to marry island women. Marriages between negroes and whites are not tolerated on the San Blas Islands. Marriages are generally monogamous. The few cases of polygyny are usually limited to chiefs or other prominent men.

Divorce is quite commonplace and is usually the result of adultery, quarreling between the man and his in-laws, or the man's objection to working under his father-in-law's directions. In cases of divorce, no payment is made by the man to his wife's family. The children remain in the household, and the husband loses all control over them.

Stout states that island endogamy prevails over most of the area with the exception of the islands in San Blas Gulf. There, island exogamy is frequent though still not so common as endogamy.¹⁰

The Cuna bury their dead on the mainland. Their graves are placed under two or three thatched roofs (one to a family), each sheltering half a dozen low mounds which are marked by a small piece of wood at the head and foot. A few stools are also kept under these shelters, as well as a teapot and cups for the use of the relatives who come to drink to the memory of the dead. Each man owns his own domestic properties (his cup, his plate, and his hammock). When he dies his hammock is

used as his shroud, and his small personal effects are placed with him in the grave so that they may serve him in the hereafter. Personal possessions that are too large for burial, such as his canoe, are sold so that nothing is left to his progeny.¹¹

Activities Outside of the San Blas Region

About 5,000 of the San Blas Cuna have found employment outside their own territory. They work in United States Army installations in the Canal Zone, in Colon and Panama City, and in the interior of the Republic on plantations operated by the United Fruit Company. Despite this close and frequent association with elements outside their own group, the San Blas Indians have demonstrated a marked ability to minimize the acculturation which would normally result from their contacts with foreigners either in the Canal Zone or in the Republic. Illustrative of their determination to preserve their customs is the fact that each working party of San Blas Indians employed in United States installations in the Zone is in charge of a sub-chief who is responsible for the discipline and conduct of his group and has authority to remand immediately to the islands any individual who in his opinion fails to observe tribal standards of conduct or may have become the subject of criticism by the military commander for whom the man works. Similarly, the groups of workers which have been employed by the United Fruit Company to work on their plantations are also headed by a sub-chief who has authority of the type described above.

Of the various Panamanian Indian groups, the San Blas Cuna are by far the most highly organized and have the most clearly established relations with the Panamanians.

III. PHYSICAL CHARACTERISTICS

The San Blas Cuna, or Tules, as they sometimes call themselves, are a short, stocky people with dark reddish-brown skin. Their bodies are unusually long in proportion to the limbs. The average stature is small. The Cuna adult male is 59.5 inches and the average height of the Cuna female is 55 inches. The San Blas Cuna have rather broad skulls. They resemble the Maya of Yucatan and the ancient Peruvians.¹²

Perhaps the most remarkable physical feature of the Cuna is the extremely high percentage of albinism.

Albinos, or "Moon Children," are common in the islands. The light skin color of the San Blas albino is striking. The hair ranges from auburn and brown to white; eyes have hazel, dark blue, or dark violet irises; the skin appears flushed and freckles are present. Some have a white skin that tans; others have white skin and brown eyes and black hair. Each hereditary trait seems to be a separate mutant factor.

The partial albino Indians are the frequently reported white Indians of Darien. According to Krieger "their appearance is obviously the expression of a homozygous recessive condition, due originally to a mutation in one or more genes." They are not considered the result of previous miscegenation with Caucasians since they are clearly Indians rather than hybrids. This is supported by data from family histories. Their present number seems to be explained by frequent matings of related recessive-carrying brown genes.¹³

Albinos together with the neles or "seers" enjoy high status among the San Blas Cuna. Stout reports that, of the several degrees of albinism that exist among the San Blas Cuna, only completely unpigmented individuals are surrounded with special beliefs and occupy a special status. They are believed to be more intelligent. It is also considered that they will occupy a better place in heaven and that for a brown person to assume his own place in heaven, he must become friends with several albinos. Full albinos are also considered to be particularly free from sin, and they are believed to be the only Cunas capable of scaring off the demon thought to devour the sun or moon during eclipses. They sunburn easily and cannot see well in the daytime, which affects their work potential.¹⁴

IV. ECONOMY

Agriculture

With the exception of occasional coconut cultivation, agriculture, as such, is limited to the mainland, where plantains, bananas, corn, yams, sweet potatoes, rice, sugarcane, and pineapples make up the principal crops. Arboriculture consists of coconut, oranges, lime, mango, papaya, cacao, and avocado. Corn land is customarily allowed to lie fallow for 3 or 4 years between crops. Agricultural tools consist of machetes and iron dibbles.

Cultivated land holdings are sometimes quite large and owners are frequently required to spend nights on the mainland. For this purpose they erect temporary houses. The plots of land to be cultivated are taken from the virgin forest by delineation, which is accomplished by marking a path around their borders. Thereafter, each plot belongs to the man who marked it off, and afterwards to his heirs.

The San Blas Indians seldom have all of their land holdings concentrated in one location. A family's holdings usually extend to several locations along the coast and up the rivers, and are supplemented with holdings on one or more of the islands.

The lands of the San Blas are cleared, planted, and harvested by groups of men--family, friends, and relatives. They generally clear the jungle lands by cutting with a machete and by burning.

Fishing

In addition to agriculture the Cuna are also fishermen and hunters, although their hunting is not extensive and is of decreasing importance since they have inhabited the San Blas islands.

The fishing of the Cunas is of considerable importance as business, a source of food and sport. Fish is the favorite food of the Cuna. The fish are caught with traps and hand-lines in the ocean, and with harpoons and bows and arrows in the rivers. Fishing is practiced at all hours of the day. The San Blas Cuna find the greatest abundance of their fish supply among the San Blas island group known as "Mauki."

The trapping and capture of the sea-turtles is also an important source of meat for the San Blas Cuna. The turtles are often kept alive in traps on uninhabited islands, to be slaughtered as needed. The eggs of sea-turtles are considered a desirable source of food and a great delicacy.¹⁵

Animal Husbandry

Although fish is a primary source of protein for the San Blas Cuna, they do raise chickens and pigs. Cats and dogs are kept both as pets and for the control of rodents. Chickens and pigs are generally raised for eventual sale to traders. On certain occasions pigs may be butchered by a Cuna family, and the surplus meat is sold to other families.¹⁶

Trade

Trade between the San Blas Cuna and the mainland Cuna is infrequent. Although they trade with visiting schooners, most of the trade engaged in by the San Blas Cuna is between the islanders themselves. Inter-island trade consists mainly of dealing with several privately-owned stores on the larger islands.

Goods brought to the islands by schooner traders consist primarily of iron pots, china and enamelware, tools, fishing line and hooks, shotguns, shells, cloth, string, needles, soap, kerosene, plug tobacco, glass beads, and gold ornaments. In turn, the islanders offer coconuts, oranges, eggs, avocado pears, lobsters, sea turtles and pigs. The ships usually call monthly and the trade is on a barter basis.

Coconuts are interchangeable with coins as currency. All of the barter commodities have a money value, and American and Panamanian coins and bills circulate freely throughout the San Blas area. Prices and values are reckoned by nickels up through 45 cents and by 50-cent pieces thereafter.¹⁷ Of interest is the fact that purchases of expensive gold ornaments (obtained from goldsmiths operating their own small boats) are usually paid for with pigs.

Technology

Hammocks are woven by the women from native cotton or of thread obtained from the traders. A limited amount of dyeing is done, and the art of sewing is highly developed. Baskets and fire fans are woven exclusively by the men. Ceramics are limited to the braziers used in funerals and by the medicine men, and are generally made by both sexes. Woodworking is exclusively men's work and includes canoe-making by specialists, fashioning fish spears and harpoons, and carving one-piece seats (ganás). Nets also are made by the men, as are sails and canoe paddles.¹⁸

Outstanding among the articles made by the Indian women is the coveted mola, or Panamanian blouse, made of materials of various colors superimposed to produce a variety of vivid designs of animals, flowers, and conventional figures.

Dress

The men have adopted the garments of the western world, but have modified their use, wearing felt hats, short shirts, and trousers which are often rolled to the knee. The women of the islands favor short-sleeved, bright and multi-colored applique blouses (molas) and calf-length, wrap-around skirts of figured dark blue cloth. They are secured by rolling at the waist. Beneath this wrap-around skirt a shorter, solid-color skirt is usually worn. Women's head covering consists of a rectangular piece of red cloth which is perhaps five feet long and half as wide, which hangs loosely down the back to below the shoulders. These bandanas are called "muswe." Many women wear constricting anklets and wristlets made of small colored glass beads, and nearly all wear gold nose-rings, which are put in when the girl babies are about a year old. Some women wear gold ear disks as well as gold breast plates, many strands of colored beads, and necklaces of silver coins. Both sexes go barefoot.

The men do all the sewing and mending for themselves and for their sons.

Housing

The San Blas Cuna build one-story houses, with wattling of cane walls and palm-leaf thatched roofs capable of keeping out the heaviest tropical rain. Architecturally, the houses or huts are of one design. They are roughly rectangular, ranging from 25 to 50 feet long, 15 to 40 feet

wide, and 12 to 25 feet high. There are no windows. The whole community will normally participate in building a new house. Most houses have an accompanying kitchen-house generally about 15 by 30 feet. Besides hammocks, the furnishings consist of one or more stools carved out of a solid block of wood. From the poles supporting the roof there generally hang bundles of rice and maize as well as clothes. Fish spears and fish nets are also kept inside the house.¹⁹

Due to the small size of the islands--some barely an acre in area but having a population of more than 1,000--the huts are built very close together so that it is almost impossible to walk between them. In fact, they are so nearly adjoining one another that in many cases they cover the island completely. Eaves are low and a person of average height must stoop. Sometimes a family consisting of four generations will live in one hut not as large as an ordinary box car.

Illumination is generally provided by kerosene lamps. Most households have a corn-grinding mill and many have a large wooden mortar and pestle, frequently operated by two women using alternate strokes. Sugarcane presses which are shared by several households are frequently found.

Some families have roofless, rectangular, thatched enclosures at the water's edge for keeping pigs. Similar but larger enclosures built on piles over the water provide both bath-house and latrine facilities. These outhouses are shared with the families from houses which have no water frontage.²⁰

Regardless of the lack of customary forms of sanitation, personal cleanliness is highly valued. Upon arising each individual gives himself a shower bath from calabash bottles, and he takes additional baths at irregular intervals during the day. An odor of perspiration is seldom noticed.

Property and Wealth

Almost everyone in a San Blas Cuna Indian community owns some crop lands and coconut plantations. Those lands and plantations possessed by women are worked by the men.

The principal forms of wealth are land (especially coconut plots), gold ornaments, coin and glass bead necklaces, women's clothing (especially the elaborate applique blouses), money and, as might be expected, a miscellany of hoarded goods from the factories of the outside world.

Almost all wealth is derived ultimately from coconut tree holdings, though an increasing amount of cash is brought in by the younger men working in the cities and the Canal Zone and through the sale of Indian curios to tourists.

Property, both land and personal, is never inherited by one spouse from another nor between in-laws, but always by children from parents. Adopted and step-children do not inherit from their foster and step-parents.

V. GOVERNMENT

Tribal Government

The various island villages of the San Blas Cuna make up a loose confederal government. Each village elects a chief, who in turn votes for a high chief. The high chief holds his office as long as he is able to maintain the loyalty of the "congress" of the village chiefs. His relationship with these chiefs is not prescribed by rule, but is largely based upon personal relationship. Along with a high chief the "congress" elects a second chief who serves when the high chief is disabled. A "congress" of the San Blas Cuna may be called by either the high chief, second chief, or in event of need by the chief of any village when the occasion demands it. Decisions made in the Cuna "congresses" require a simple majority. Often many persons from given villages other than the elected chiefs attend the "congresses" and such persons are accorded voting privileges. During "congress" meetings, as many chiefs as are present recline in hammocks in the "congress hall," which is located in the village of the chief who called the "congress."

Within the Panamanian Government the administration of the San Blas coastal region is under an "Intendente" whose headquarters is located at Porvenir. The "Intendente," or governor, has an Indian counsellor or advisor who is on the Government payroll and who interprets and also explains the customs and desires of the San Blas Cuna to officials of the Panamanian Government. This counsellor also serves as a channel for communicating to the Indians the Government's regulations and wishes.

According to a treaty made in 1925, the Cuna Indians are entitled to autonomous local governments. However, the Indians are also considered to be Panamanian citizens with recourse to the courts of law.

Village Government

The principal expression of formal village government in a Cuna community is the village meeting or "congress." Such a meeting is usually held for the purpose of exhorting the villagers to follow the ideal patterns of behavior as laid down in myths and legends; the making of policy decisions for dealing with other islands and with the outside world; the assignment of cooperative village tasks; and occasionally for the settlement

of disputes or control of transgressors where the head of a household has been unable to settle the matter.

Village government is democratic to the extent that all males capable of doing a man's work elect officials from among themselves. These officials hold office for life, or until they are displaced or resign either by request or due to age. The village meeting essentially takes two forms. The "talking" meeting is presided over by the chief and is used for discussion of village problems and questions of importance; it is attended only by the men. The other form of meeting is the "singing" meeting, which is presided over by the nele, who may also be the chief (see the section on Medical Practices Among the Cuna Indians of the San Blas Islands for clarification of this point). The "singing" meeting involves the chanting of songs by the nele in a strange language which is translated to the audience by an interpreter. The songs cover the legends of the Cuna and are used for religious and moral enlightenment of the listeners. The women are expected to attend these meetings along with their men. Generally speaking, the two kinds of meetings occur from three to five times a week. They take place in the village "congress hall" or in one of the larger houses.

The villages of the San Blas Cuna usually have a first and second chief, and may also have a third chief. Whenever the village "talking" meeting is in session, as many chiefs as are present lie in their hammocks in the center of the hall. The hammock is the prerogative of the chief and is equivalent to his throne.

Social Organization

Each village or island community is composed of a number of matri-lineal, matrilocal, extended family households, each headed by the oldest male and his wife. The other household members are the unmarried children, married daughters and their husbands, unmarried grandchildren, married granddaughters, their husbands and unmarried children. In short, it is a group of conjugal units--the extended family.

Upon marriage, a man is fitted into the hierarchy of his wife's household and thereafter is under the jurisdiction of the household's headman (saka)--usually the grandfather-in-law. All men must obey the orders of this household head. Each evening the latter gives instructions for the next day's work, apportioning the labor among the male members of the household.

The wife of the household head is in charge of the food supply and it is she who advises the household head what foods are needed. She also apportions among the women the household duties of preparing cacao beans, drying and grinding corn, squeezing out sugarcane, smoking fish, cooking, washing, etc.

A man usually does not trade or sell any article without first seeking permission from his wife. But if she should want to sell the beads she has made for herself, or the garment she has stitched, she does so without having to consult her husband; it is her privilege and right.

VI. HEALTH CONDITIONS AND MEDICAL PRACTICES OF THE CUNA INDIANS OF THE SAN BLAS ISLANDS

Endemic Diseases of the Region and Regional Medical Facilities

There is little recorded data of modern medical investigation of the Cuna Indians of the San Blas Islands. Fragmentary references to diseases of the Cuna by the missionaries, anthropologists, sociologists, and others studying the Cuna Indians of the San Blas, indicate that they are victims of most of the endemic diseases of the region. The severity of the diseases and their consequences may vary from those of the non-Indian population of the region, for which some data is available. This probably reflects differences in methods of treatment and other cultural factors such as diet, hygiene, religious views, and the living conditions of the Indians.

The principal diseases common to the Isthmus of Panama are indicated in the report of the World Health Organization entitled: "Reported Cases of Notifiable Diseases in the Americas", 1962. This was published in July 1964 by the Pan American Health Organization, Washington, D.C., as No. 102 on their list of Scientific Publications. Pertinent data on the Republic of Panama and the Canal Zone have been extracted from this report and are attached hereto as Appendix 2.

Although considerable information has been prepared by the Panamanian government on endemic (and other) diseases in the Republic of Panama, the published data do not differentiate between the ethnic groups, but relate to the total population of the country. Presumably the data reflects most accurately conditions in those parts of the country in which the preponderence of government hospitals and health centers are located. Notably, there are only three centers with a permanent professional staff in the provinces to the east of the cities of Panama and Colon. Appendix 3 shows the location of medical facilities in the Republic of Panama as of September 1964. A table of the reported cases of communicable diseases in the Republic of Panama for the period 1949-1960 as prepared by the Public Health Service of the government of Panama is located in Appendix 4.

Deaths from communicable diseases in the Republic of Panama for the year 1962 reflected in Scientific Publications No. 102 of the Pan American Health Organization are shown in Appendix 5.

The report, "Health Publications" of the Walter Reed Army Institute of Research, The Republic of Panama and the Canal Zone (November 1959) also provides good background information on endemic diseases for the region. This publication makes no specific references to the prevalence of the regional endemic diseases in the San Blas Islands.

The report of Dr. J.B. Jelliffe, M.D., and a research team which conducted an ecologic field study of health and nutrition of the children of the San Blas Indians²¹ provides considerable information from which some conclusions on the prevalence of regional endemic diseases in the San Blas Islands can be drawn. Dr. Jelliffe's study was based on the San Blas Islands of Porvenir, Nargana, and Ailigandi. Visits were made to the adjacent islands from these bases. He found that it was impossible to carry out his planned program of investigation on most of the more traditional islands because of the attitude of suspicious uncooperativeness.

Dr. Jelliffe concluded that the present day inhabitants of the San Blas Islands vary greatly in their sophistication, and their acceptance or rejection of proffered modern medical assistance. The island inhabitants are classified by Dr. Jelliffe into the following three categories: Sophisticated: Rio Azucar, Nargana and Corazon de Jesus; Semi-sophisticated: Ailigandi and Ustup; Traditional: Wicipuala, Naluneka, Arritup, Rio Sidras, Carti Suitup, Carti Mulateup, Carti Tupile, Tikantippi, and Achutup.

The prevalence of certain regional endemic diseases on the San Blas Islands is reflected in the report. Though Dr. Jelliffe's sample for investigation was quite small, its composition of individuals having almost no exposure to foreign influence makes it most valuable for the purpose of this study. The findings of the Jelliffe report and other sources on selected diseases follow:

Malaria

Dr. Jelliffe noted that in an examination of 423 Giemsa-stained thick blood films from infants and pre-school children, all were negative for malaria. No spleens were palpable, while the prevalence of hepatomegaly was only 0.8 percent in all those examined.

From these findings it can be concluded that malaria, one of the more prevalent diseases in the region, is rare in the San Blas Islands. This condition probably is attributable to the spraying of the dwellings under the anti-Malaria program in Panama; the Indian custom of returning to the islands before sundown; and the practice of not permitting foreigners to remain on the islands over night.

Intestinal Helminths

Examination of infants from birth to six months was all negative, while in the 6-12 month group 10.9% showed *Ascaris Lumbricoides* Ova. No differences were found among pre-school children in the three categories. Combined results in 245 examinations of 1-4 year olds showed *A. Lumbricoides* 41%; *Trichuris Trichiura* 3%; *Ancylostoma Duodenale* 1%. *Giardia* cysts were found in 5% of the subjects examined and *Enterobius Vermicularis* Ova in 1%.

These levels of intestinal parasites are considered very low for tropical people and much below the norm for mainland Panamanian residents. This condition may be attributed to the Indian custom of wading into the sea to pass feces, and boiling of all meat.

Skin Diseases

Certain skin diseases were common. Prickly heat was the most frequent and often covered extensive areas on the forehead, neck, and upper chest. Fungus infection was mostly *tinea versicolor*. No classical scalp or body ringworm was seen. Impetigo was not infrequent. No cases of yaws, leprosy, jiggars or *molluscum contagiosum* were seen and only one case of scabies.

Respiratory Infection and Tuberculosis

It was apparent and recognized by the people themselves, that respiratory tract infections are very common, particularly during the rainy season. In a total of 377 pre-school children seen, 6 cases of broncopneumonia were treated. On one island, Ustup, one quarter of all children seen showed evidence of respiratory infection. It was impossible to test for tuberculosis.

Jelliffe comments that though no figures are available for disease incidence, the results of previous tuberculin testing of the San Blas Indians showed the following positive reactions: birth to 11 months: 5.2%; 1 to 3 years: 6.6%; 4 to 6 years: 9.7%; 7 to 10 years: 35.4%; 11 to 14 years: 66.6%; 15 to 18 years: 84.9%.

This finding is compatible with the comments of non-medical observers, that tuberculosis and pneumonia are common among the San Blas Islands. Father Puig²² a missionary with long term residence in the San Blas Islands describes pneumonia and tuberculosis as the diseases responsible for the greatest number of fatalities among the Indians.

Yellow Fever

Reports from PAHO²³ and Walter Reed Army Institute of Research²⁴ indicate that there has been no urban yellow fever in Panama in decades. Some isolated cases of jungle yellow fever have been reported, but none are known to have occurred on the San Blas Islands.

Human Rabies

Human Rabies has not been reported in Panama since 1910. There is no reason to suspect its presence on the San Blas Islands.

Nutritional Diseases

Dr. Jelliffe's study revealed no cases of children with the stigmas sometimes considered nutritional indicators. There was no Pretibial Edema, Angular Stomatitis, Pellagra Rash, Follicular Keratosis or Bitot's spots. No Kwashiorkor was found, however, clinically manifested Rickets were observed in 3.9% of infants in the 3-9 month range and in 2.4% of the older children, 12-24 months.²⁵

The absence of Kwashiorkor indicated no gross protein deficiency in the diet. The large number of cases of rickets is ascribed to the Indian practice of keeping pregnant women and small children out of the sun.

Conclusions drawn in the Jelliffe report indicate the principal medical problems of the Cuna Indians to be (1) Ascariasis which it is suggested be treated with Piperazine; (2) certain skin infections which are difficult to avoid in the San Blas Island environment; (3) caries of the first Dentition; and (4) respiratory tract infections.

Public Health Facilities

As of 1964, there is a permanent public health center on the island of Nargana operated by the Ministry of Public Health of Panama. This center reportedly is currently operating a mobile aquatic health unit (for island hopping). The unit is manned by one medical officer, one graduate nurse, one health educator, and one sanitary inspector. Occasionally an odontologist is available.

From the available information it would appear that the San Blas Cuna are afflicted by many diseases endemic to the region. It may also be concluded that a high mortality rate exists for lack of proper treatment of disease due to inadequate facilities and the Indians' religious beliefs about diseases and their treatment.

For additional information on the social and psychological implications of the health and sanitary practices of the Cuna Indians, see the general works referred to in the bibliography.

Diet and Nutrition

Beyond the report by Dr. Jelliffe, previously cited, there does not appear to have been any extensive investigation into the diet of the Cuna Indians and its nutritional adequacy. Various writers have briefly remarked about the composition of their diet, the crops which they raise, the sea food which they catch and the animals hunted or raised. From these materials the conclusion may be drawn that, qualitatively, the San Blas Cuna have the ingredients for an adequate diet. However, some evidence does exist that their diet may be quantitatively deficient. By way of example, mention is made that a family's food supply is often dependent upon the results of children's fishing. Another instance of quantitative deficiency is the rule that the father of a girl reaching puberty must demonstrate his ability to provide sufficient food before a feast can be announced, indicating that such foods may not be easy to come by. In addition to the above, there is the Cuna custom of trading much of their better meats and foods to traders in exchange for gold ornaments.

While there have been no reports of starvation among the Cuna, there is evidence that they do suffer from malnutrition. Keeler commented that the diet of the Cuna village on the Island of Ailigandi was deficient in animal protein. Fr. Puig,²⁶ in his remarks concerning the health of the Cuna, attributed poor diet as one of the factors in their alleged susceptibility to disease. Several of these authors have also mentioned the Cuna custom of boiling their foods in large pots and presumably such a practice might lead to vitamin deficiencies.

By way of summary, it might be stated that although firm evidence is lacking, the information which is available indicates that a sufficient variety of foods is available to the San Blas Cuna, however, their diet may not be quantitatively adequate.

Medical Practices Among the Cuna Indians of the San Blas Islands

The medical practices of the San Blas Cuna Indians reflect their magico-religious beliefs concerning life, death, and disease. The Cuna are extremely concerned with the general health of their bodies and the foundation of their religious system is the prevention of disease and the curing of the sick. "Any discussion of the medicinal practices of the Darien (Cuna) tribes and of the materials employed by them in effecting a cure involves a study of their associated vocal and instrumental music, various magical practices and devices, their wood carvings, and other arts. There is, to be sure, a fund of knowledge possessed by the aborigines that might be termed scientific and which relates mostly to the healing value of plants, but applies also to such practices as the cooling baths for fever patients."²⁷ However, an indispensable function is that of the seers and healers who with songs, chants, and practices identify and wrestle with the evil spirits responsible for the victim's illness. The principal members of the Cuna hierarchy involved in the magio-religious manifestations or rites are the nele, the abisuas (absogedi, the plural of abisuas), the inatuledi, and kantule. The nele is a seer; a wise man well versed in the lore of the Cuna people; and diagnostician. He is born a nele (generally recognized by being born with the caul - but also later identified by a precocious manifestation of sagacity) and later studies the lore of the people with an older nele. The absogedi include all of the group of "witch doctors" who use either medicine, songs, or chants, or a combination thereof to cure illness, ward off evil, or exorcise devils. The inatuledi are the curers; if their practice predominantly relies upon chanting or song for a cure, they are also called kantule. Kantule may also be used to refer to an abisuas who only uses the chant. The nele may be only the seer and diagnostician who identifies the illness which may then be treated by another inatuledi or kantule, or he may also be an inatuledi or kantule and undertake the cure himself. The title "nele" should not be confused with that of "chief" (i. e., saikla or saila in Cuna or cacique in Spanish). Some authors have made this error due to the fact that it

is not unusual for a nele to be chosen as chief of a village, or supreme chief of the San Blas Cuna people.

The Cuna explanation for all evil, including illness, is that the victim has offended God, and conversely that all good things, i.e., health, good crops, luck in hunting and fishing are rewards given by God in recognition of good conduct. Manifestations of God's displeasure may be seen in the sickness or death of an individual or in a disaster affecting an entire family or village. The treatment of each such manifestation is quite specific, running the gamut from treatment of a simple disease with herbs and incantation by the inatuledi to week long feasts of appeasement by whole villages with participation by the full panoply of neles, absogedi, inatuledi and kantules. During such periods of appeasement the normal routine of village life is suspended, foreign influences and visits avoided, and strict discipline enforced upon all inhabitants lest the benefits of the appeasement be impaired. However, when the cause of an injury or disease is manifestly the fault of an individual, such as a wound caused by ineptitude in handling a machete, there is no great objection to the sufferer receiving medical treatment from a foreigner.

Typical Beliefs Concerning Diseases and Their Treatment

The beliefs of the Cuna concerning illness and its treatment coincide with their religious concepts of sex power, birth, and death.²⁸ These beliefs contain many of the characteristics of the old Mesopotamian worship of Ishtar. Their medical practices include the use of a great number of idols or wooden caricatures of men and animals. The idols are not worshipped as such. The Cuna believe that the aid of spirits is required for healing and that some dwelling place must be provided for them in the vicinity of the person being treated. The idols, referred to generally as nuchu provide dwellings appropriate to the spirit whose presence is desired. They also believe that good spirits can be called upon by prayers and chanting; evil spirits are resisted and can be overcome by chanting.²⁹ The chanters do not use medicines of any kind but rather diagnose the patient through dreams, e.g. if the patient dreams of rivers, some river creature is responsible for his illness. The chanter even enters into the realm of disease prevention when he directs a community

appeasement feast using dried cocoa or dried pepper as incense. He usually works at night, as this is the time the spirits are prevalent. During the chanting he organizes a "rescue party" involving the use of one or more images (9 to 12 inches tall) placed near the sick man. The chants are sung in a monotone; the form varies in accordance with the person's dreams. Since each chant usually describes the whole San Blas culture, the chanter must select the appropriate portion. Thus the chanter has specific chants and ceremonies.

Feasts of Appeasement

When disease approaches an epidemic stage or some other disaster threatens a family or whole village, the nele may require the family or community to hold an appeasement feast. Appeasement feasts have no set time. The more elaborate or "cocoa bean feast" may last from 6 or 8 days to two weeks, the hot pepper feast lasts one or two days. When given for a family, these feasts may be shortened.

De Smidt describes these feasts as follows:³⁰

* COCO BEAN FEAST: A large image (often 7 feet tall) is made to serve as a temporary dwelling for the patron spirit whom they select to be their guest. Much care is taken to gather coco-beans (some are wild); these are baked and dried in the homes. There must always be a good supply of tobacco on hand, for everyone is expected to smoke. The occasion for a feast of this kind is one where it is believed that the spirit world has been antagonized by the inhabitants of an Indian village, thereby causing fever or other sickness to afflict the people. During feast time all male-female relations cease; also no intoxicating liquor is to be used. The chanter is paid by the participants, and these chants may take as long as 15 years to learn and are not given in a language the people understand. Apparently the chant is a prayer to the good spirits to chain the evil spirits and banish them from their village. The nature of this whole ceremony depends on the supply of incense, not the nature of the epidemic.

HOT PEPPER FEAST: This type of feast occurs when sickness afflicting the village is thought to be caused by evil spirits lurking in the river area and molesting the men as they go to their farms and women as they do their laundry. After 24 hours of chanting, hot peppers are placed carefully along the river bank. A short ceremony follows. This feast occurs only once a year, while coco-bean feasts are 3-5 years apart.

*Note: De Smidt consistently misuses coco for cocoa.

Medicine Man

The Cuna medicine men (absogedi) are specialists, one for snake bite, one for pre-natal care and childbirth, another for fever, and others for varied illnesses or conditions.

Snake Bite Doctor: The Indians who work farms or hunt on the mainland are susceptible to snake bite from a wide variety of venomous snakes. De Smidt ³¹ describes the treatment for snake bite.

During one of our visits to the San Blas country we arrived at Ailigandi on the morning when the son of a Medicine Man had been bitten by a poisonous snake. Indians go to their farms at about the same time and, as far as possible, along the same routes so they may help one another in case of snake bites, sudden sickness or accidents. All natives understand that if they are bitten by a poisonous snake they are to stop where they are and call for help.

On this occasion the young man was bitten in the leg as he stepped out of his Cayuca to go to his farm. He then sat down in the river and waited until someone came along to help him. His father and several other snake medicine men of the village were quickly notified. While the young man sat in the water the medicine men gathered the leaves and twigs of various herbs from the surrounding jungle. These were pounded until soft and wet with their own juices. They were then applied to the bite like a plaster. These plasters were changed many times during the day.

Just before sun-down the medicine men brought their patient quietly from the river to his home in the village. His leg was swollen very large but his snake bite was not considered to be one of the most serious. If his condition had been more critical his family would have built a thatched hut on a nearby uninhabited island that afternoon and he would have been taken there at sundown instead of to his home. The snake medicine men in that case would have gone to live with him in this isolated place for several weeks while they would have continued to treat him. Everyone in the village was told that there was to be no unnecessary or loud noise. A Congress meeting which had been called for that evening was postponed.

AN HERB BATH

At his home the young man was bathed very frequently in an herb bath. We later saw one of these baths. His Cayuca was serving as a bath tub. The liquid, which filled about half the Cayuca, was very dark in color. Four days after the young man had been bitten the ban of quiet was lifted from the village. When we saw the patient six days later he was lying in his hammock. The swelling had gone down. He was allowed to receive visitors and friends, but he was not permitted to be very active.

Several months later when I inquired about his health I was glad to learn that he had completely recovered.

There was one aspect of this whole procedure which impressed us a great deal. On the first afternoon, while the patient was still lying in the river, a snake medicine man and his understudies came to all the houses of Ailigandi with a large kettle containing a black medicine. He asked each person to drink some of this medicine on the theory that the affliction could be divided among many persons rather than to allow it to be borne by one alone. Thus the person who was being treated would stand a better chance of recovering.

The Woman's Doctor: Pre-natal care and childbirth are described by De Smidt as follows: ³²

When a woman becomes pregnant her mother will go with her to the medicine man who specializes in pre-natal care and childbirth. She must then come to the house of this Medicine Man every morning for a cup of medicine until her baby is born. The herbs from which this tea is made are gathered fresh daily and are usually prepared by the wife of the medicine man while the patient waits.

When the time comes for the child to be born, a midwife is called who may be any one of the older women of the village. There are no sterilized sheets or antiseptics used because these people know nothing about germs or the causes of infection. As a result the mortality rate of women during childbirth is very high.

During childbirth the woman lays in her hammock. The husband or medicine man are never permitted to be present. She is attended by a midwife whose main function is to watch the woman's muscular movements and to report them to the medicine man. If the patient's breathing is heavy so as to remind one of the hissing of a snake, the medicine man concludes that a spirit from the snake world is hindering a normal delivery. He will then prepare an herb drink into which he will grate part of the bone of a snake. In this manner the sick woman takes into her body part of the snake world which it is thought will strengthen her to fight against these molesters.

Shortly before the baby is to be born, a hole is cut in the hammock through which the baby passes and drops into a Cayuca filled with sea water or a medicine bath. The work of the medicine man is then over and it is up to the midwife to care for both mother and child in such a way that both may enjoy good health.

Other Treatments

Emphasis is placed on the need for quiet surroundings for the sick. The practice of eating and drinking in limited quantities is followed. Fevers are treated by a medicated bath prepared in a water-filled cayuca, into which white and green "fever stones" have been placed. Sometimes kettles filled with hot water in which herbs have been steeped are placed under the patient's hammock. The ascending fumes are believed to represent spirits able to effect a cure.

The Cuna doctor prepares his remedies in various ways and may apply them externally or administer them internally. Among the herbs used are copaiba balsam, cabima ipecacuanha, sarsaparilla, colo nut, tulu, laoes, vanilla, croton, locust gum, balata and other plant products. Cocoa, used for beverages and incense, is also used as a medicine.

Among the charms and magic used by the native doctor, the smoke from burning peppers and cocoa is considered most efficacious in frightening away evil spirits. An effective magical agent of a symbolic nature is to give a patient water that has been poured over a set of pan's pipes so that he may breathe as freely as the air passes through the reeds of the pipe. Chants and incantation are the most common usages, though at times dances may be employed, or the doctor may physically wrestle with the devils afflicting the sick person. (For a more detailed description of treatment by native medicine men, native medical practices, and burial rites, see Appendix 6.)

Sanitation. De Smidt comments as follows:³³

In spite of the congestion which is found in these Indian villages one cannot say that living conditions are unhealthful. In fact, sanitation is much better among these Indians than in many parts of South and Central America which are supposed to be far more civilized. For purposes of body elimination the Indian walks into the sea to where the water is from four to 12 inches deep. Here he squats while he faces the land and washes himself with his heel before he returns to his duties. On one island where several Indian families each kept a pig, we were amused to see some member of the family periodically lead the pig into the sea for the same purpose. Chickens and dogs are also kept in the villages but few cats are seen.

Even though soap is scarce and expensive in this land the Indians are a very clean people. One is never annoyed by body odors even when one is among a large group of Indians who are in their native surroundings. This is because Indians bathe with fresh water three or four times a day and wash their clothes daily.

Use of Narcotics and Hallucinants

Research efforts conducted in the preparation of this study failed to reveal any authoritative material concerning the use of narcotics or hallucinants by the Cuna Indians of the San Blas Islands. Apart from two oblique references in the sources consulted, there are no indications that narcotics are used by the Indians of the San Blas.

Wafer's, A New Voyage and Description of the Indians of America,³⁴ describes rites for foretelling the future. His description of the participants in the rites suggests that they had been under the influence of some narcotic.

LeBarre in "The Peyote Cult"³⁵ cites from A.H. Gayton, The Narcotic Plant Datura in Aboriginal American Culture, (Thesis, University of California Library, 1928), "Datura is reputed to be used as a hallucinant in prophecy and divination among the Chibcha and Darien tribes," (The Cuna are one of the Chibcha family of tribes.).

VII. EDUCATION AND MISSIONARY ACTIVITIES

When the Republic of Panama was established it was only natural, in view of Spanish tradition, that Catholicism was decreed the state religion and the Catholic Bishop of Panama was placed on the federal payroll. This gave a Catholic impetus to the belated Christianizing of the Indians of San Blas. In 1907 Padre Gasso arrived on Nargana, and his great influence in opening up San Blas to Christianity is a matter of record. The Catholic center is on the adjacent islands of Yantup and Nasatup, which are connected by a wooden bridge. In 1951 the erection of Catholic churches was permitted.

As a result of Catholic efforts, many of the people of Nargana are Catholics, and religious work has spread to Rio Azukar and Playon Chico. To a great extent, at Nargana, as a result of missionary influence, nose rings have been done away with, and most of the women wear western dresses instead of native costumes. They also wear their hair long. Many of them speak Spanish and a goodly proportion of them think of themselves as Panamanians rather than Indians.³⁶

Protestant missionaries were banished by the Panamanian government from the San Blas Islands in 1925. In 1933 a Cuna Indian by the name of Alcibiades Iglesias, who had previously been converted to Protestant Christianity and studied in the United States, decided that Protestantism should be reestablished among the San Blas Indians. As an Indian he had the right to open any kind of "private school" he pleased; and his American wife could not be stopped from entering Panama, since by marrying a Panamanian she automatically acquired Panamanian citizenship. A private school was eventually opened on the island of Ailigandi, where about 90 pupils now receive instruction.

In 1915 the Panamanian Government established its first school at Nargana under lay teachers who taught in Spanish. In 1918 another government school was established at Tupile. In 1924 there were 60 Cuna students in the city schools of Panama City, the majority of them from Nargana.

Today there are schools on a number of islands. All of them are under the direct control of the Panamanian Minister of Education.

In order to obtain teachers in the Comarca de San Blas, the Government in 1945 granted nine scholarships to Indian students to enable them to study at the Juan Demostenes Arosemena National Teacher's School. A place is also reserved for an Indian student at the National Agricultural Institute of Divisa.

Article 96 of the Panamanian Constitution of 1946 provides that "the work of educational and welfare organizations to increase the cultural and social standards of peasants and Indians must be carried into the homes of the persons concerned."

According to De Smidt,³⁷ the San Blas Cuna have, for a very considerable time, wanted formal education but there is still much to be desired in this field.

VIII. THE BAYANO CUNA INDIANS

Although not called for in the directive dated 9 November 1964, in response to which this paper has been prepared, there is submitted the following information on the Bayano Cuna Indians. These are elements of the Cuna which have remained on the mainland. At one time culturally identical to the Cuna of the San Blas Islands, their customs and mores vary from those of the island inhabitants.

There are no tropical American Indians who retain unchanged cultural patterns since before the Spanish conquest, but there are a few groups which retain some semblance of the aboriginal culture and among these are the Bayano Cuna, who are located in the region of the upper Rio Bayano in eastern Panama. Despite many and varied culture contacts, they have retained a high degree of cultural individuality and remain primarily dependent upon local natural resources for food and raw materials for construction and home crafts.

The Bayano Cuna Reservation occupies approximately 450 square miles of a humid tropical forest area. Rainfall is sufficient to maintain a semi-deciduous tropical forest. The core of the area is relatively level and elevations do not exceed 600 feet.

In 1960, there were 1,762 persons recorded for the reservation area. The Bayano Cuna are unevenly distributed among seven villages, the populations of which are usually grouped into matrilocal units of varying size. The simple arithmetic population density for the reservation is approximately 4 persons per square mile. There is a relatively high incidence of albinos among the Bayano Cuna.

The Bayano Cuna are almost entirely dependent upon local resources for their food supply. Agricultural crops supply the bulk of the diet, and fish and game supply the required proteins. This basic subsistence pattern has not altered since the time of the first European contact. A relatively large number of plants is cultivated. However, of these many plants only plantains, bananas, and maize are of outstanding importance. A limited amount of agricultural produce is taken outside the reservation and sold in Panama City. The crops of chief importance in this trade are plantains, bananas, cacao, maize, avocados, and coffee.

Bayano Cuna Indians live in units consisting of adjacent structures, the main one being used principally for sleeping, entertaining visitors, handicraft production, sugarcane pressing, and as a general storage area for items such as clothing, firearms, and baskets. The smaller house serves as a cook-house and storage place for harvested crops and preserved meat and fish. The Bayano Cuna house also provides shelter for black rats, lizards, cockroaches, ants, houseflies, and mosquitoes.

Each of the widely dispersed habitation groups among the Bayano Cuna are under the control of a chief or "cacique" with the "nele" as second in command, succeeded in turn by the "comotoro" and "urumia." The nele is the magician and healer, the comotoro is the official musician appointed by the chief, in charge of the dances and ceremonies; the urumia is a policeman and the chief's messenger. He must keep strangers away from the village and warn the inhabitants of the approach of danger. The urumia is also a general utility man, notifying the village population concerning meetings called by the chief. He announces the approach of a wedding or other ceremony. Other functionaries are the assistant musicians and the official chicha taster who presides at weddings and harvest celebrations.

The Rio Bayano river system provides the only avenue of transport, which is by dugout canoe. The graceful canoe is usually fashioned with the aid of a machete and adze from a log of uruhuala; propulsion is by paddle or pole.

The domesticated animals kept by the Bayano Cuna are dogs, chickens, cats and pigs. Chickens are the property of the women and are attended only by them. Few eggs are eaten; most of them are incubated and chickens are sold outside the reservation.

Occasionally young wild animals are captured and these are taken home and raised until adult, at which time they are killed and eaten. The wild life figuring in this practice are agoutis, collared peccaries, and certain birds.

Hunting is an important activity of the Bayano Cuna both in terms of time devoted to the activity and of its yield in protein food. Peccary, deer, tapirs, and large birds are commonly shot. The 22 singleshot rifle and the 16, 20 and 28 gauge shotgun are used for hunting. Bows and arrows are now used only by boys.

Fishing, like hunting, contributes to the supply of protein food. Unlike hunting, however, fishing is also a female activity and many women devote a part of each day to hook and line fishing. Fish spearing and fish poisoning are male activities while net fishing engages both sexes.

Health

The Bayano Cuna have discouraged the introduction of modern medicines and medical practices into their territory and are largely dependent upon their medicine men (inaduleti), for the treatment of illness. The very occasional foreign visitor may be begged for aspirin or alcohol for mixing medical preparations but these are of very limited significance in the Bayano Cuna pharmacopoeia. The medicine men make use of many local plants.

Many of the Indians appear to be suffering from respiratory disorders, some of which may represent tuberculosis, while others may be caused by fungal infections. In the chill of the pre-dawn hours the village is regularly disturbed by the gasping, choking coughs of many of its inhabitants. A large amount of expectoration accompanies the coughing.

Helminthic infections are apparently common among the children. Adults do not seem to experience difficulty with intestinal worms, perhaps the result of an acquired resistance to the parasites after suffering repeated infections. The Cuna habit of using the rivers for a latrine as well as a water source facilitates the transmission of intestinal parasites.

Children suffer commonly from ear infections and many appear to have continuous upper respiratory infections. The ear infections are commonly accompanied by fever and delirium.

Malaria is reported to be rare in this area.

Diet

The basic Bayano Cuna diet consists of bananas, plantains, maize, raw sugarcane juice, fish, and game meat. Bananas (or plantains) supply the major share of calories in the diet and have assumed the position that was once occupied by maize and perhaps root crops such as yams and sweet potatoes. The daily per capita consumption of meat and fish is approximately one-fourth of a pound.

These Indians are still able, after centuries of exploitation, to derive virtually all of their animal protein food from the native fauna. Furthermore, the protein so derived is not lacking in quantity. Since the fauna used by the Bayano Cuna is not unique among tropical American

Indians in similar ecological and cultural circumstances, one may make two inferences: 1) the diets of pre-contact tropical Indians at the agricultural level of shifting cultivation in the humid lowland tropics included adequate animal protein derived from utilizing a wide range of native non-domesticated animals, and 2) the capacity of the various climatic zones in continental areas of the American tropics to produce sufficient numbers of non-domesticated animals is relatively high.

FOOTNOTES

1. Keeler, Clyde Edgar. Land of the Moon Children; the primitive San Blas culture in flux. Athens: University of Georgia Press, 1956, p. 5.
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APPENDIX 1

San Blas Cuna Villages and Their Populations as of 1926

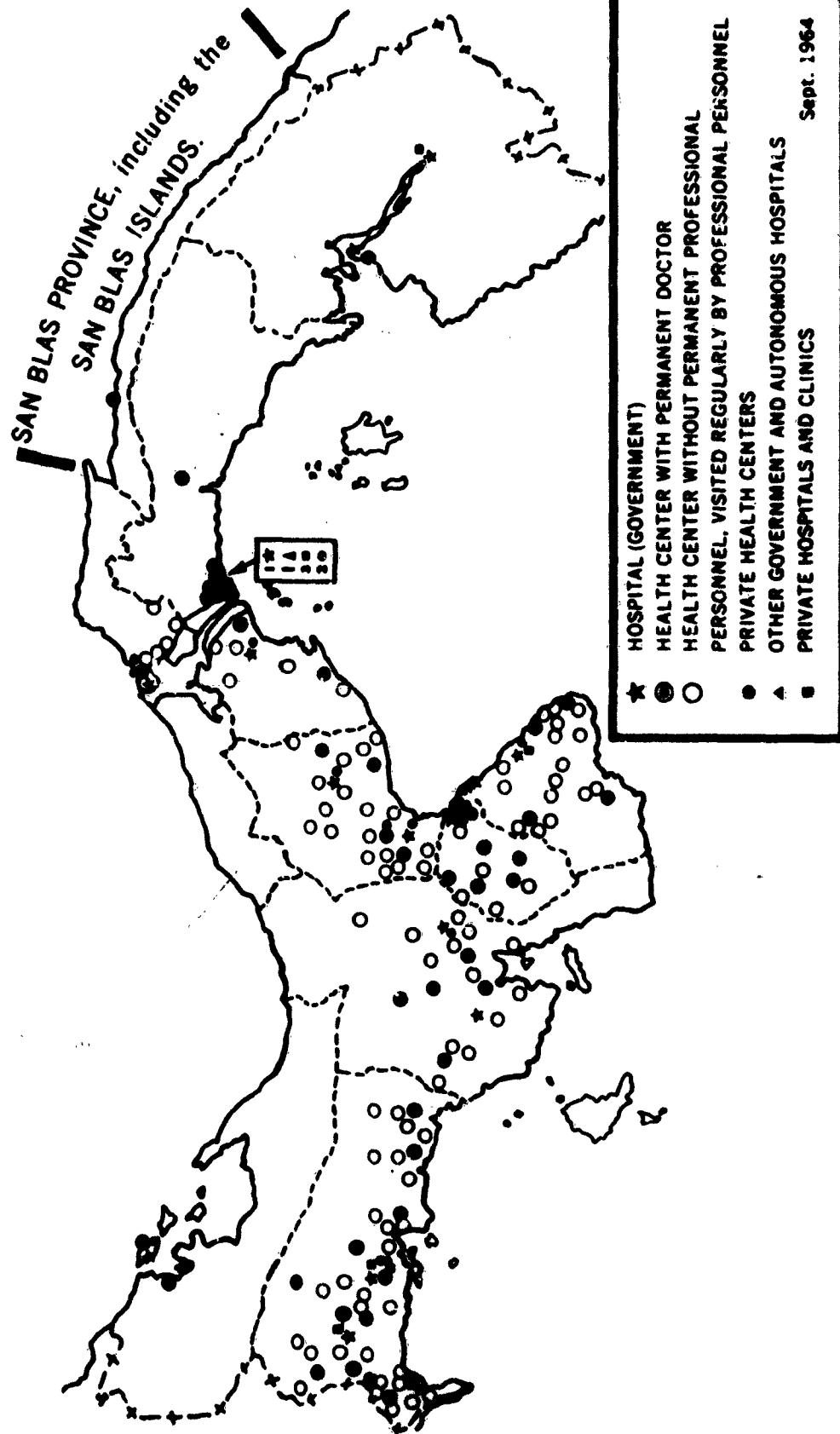
Krieger* identifies the following villages on the small islands along the one hundred mile long coast. Several "villages" are composites of several small islands. He notes that names of the villages are in part Spanish and in part Indian. Noticeably, there are no terms ending in "agua," a suffix to place names to the north and west of Darien.

Town and island (coterminous)	Estimated population Tule (Cuna) Indians
Pervenir	5,000
Modinga, 4 islands	1,000
Chucumbale, 2 islands	600
Soledad	120
Gallinazo	60
Cidra, 2 islands	2,000
Azucar	300
Nargana, 2 islands (incl. Corazon de Jesus)	2,000
Tigre	150
Tecantici	150
Maqui	100
Playa Grande and vicinity	2,000
Perro	50
Playon Chico	250
Mono, new town	250
Cuigandi--plantation village occupied intermittently by Indians from Ailigandi	
Ailigandi (160-170 houses)	2,000
The two islands of Banana and Punta Brava	500
Cuidi or Mosquito Island	500
Portoganda	2,000
Navagandi	2,000
Pinos	250
Sassardi Vieho	1,500
Sassardi Nuevo	1,000
Caledonia, or Agla	250
Carreto	200
Anachucuna	200
Bernado	15
Chotinaca	40
Pito	20

Note: Krieger does not identify the currently familiar islands of Ustuppo, Mulatuppo, Tupak, Yantup, and Nusatup, whose villages are generally identified by the same names.

* Herbert W. Krieger, Material Culture of the People of Southeastern Panama. U.S. National Museum Bulletin 134, U.S. Government Printing Office, 1926, p. 22.

		1957-61 MEDIAN	1961	1962	
			NUMBER	NUMBER	RATE
Amebiasis	P.	261	237	729	64.0
	C.Z.	5	10	3	6.4
Ankylostomiasis	P.	2168	3168	4287	376.4
	C.Z.	-	-	-	-
Brucellosis	P.	1	1	-	-
	C.Z.	-	-	-	-
Diphtheria	P.	29	48	123	10.8
	C.Z.	1	1	-	-
Dysentery	P.	784	797	552	48.5
045,047,048	C.Z.	18	6	9	19.1
Encephalitis, acute infectious	P.	1	1	2	0.2
	C.Z.	1	1	-	-
Gonococcal infection	P.	613	483	487	42.8
	C.Z.	67	55	72	153.2
Hepatitis	P.	-	-	-	-
	C.Z.	17	15	17	36.2
Influenza	P.	2367	1058	4647	408.0
	C.Z.	-	-	5	10.6
Leprosy	P.	3	-	2	0.2
	C.Z.	-	-	-	-
Malaria	P.	5017	3416	3871	339.9
	C.Z.	26	25	12	25.5
Measles	P.	835	172	1101	96.7
	C.Z.	142	55	93	197.9
Meningococcal infect.	P.	10	5	12	1.1
	C.Z.	-	1	1	2.1
Paratyphoid	P.	12	15	7	0.6
	C.Z.	-	-	1	2.1
Polio	P.	24	27	65	5.7
	C.Z.	1	1	-	-
Scarlet Fever	P.	1	1	4	0.4
	C.Z.	3	3	2	4.3
Syphilis	P.	312	151	370	32.5
	C.Z.	19	24	17	36.2
Tetanus	P.	46	34	64	5.6
	C.Z.	-	-	-	-
Tuberculosis	P.	1487	1104	1423	124.9
	C.Z.	16	15	21	44.7
Typhoid	P.	47	12	49	4.3
	C.Z.	2	3	-	-
Whooping Cough	P.	378	312	1023	89.8
	C.Z.	2	2	-	-
Yaws	P.	4	4	-	-
	C.Z.	-	-	-	-
Leishmaniasis	P.	42	106	257	22.6
	C.Z.	-	-	-	-



APPENDIX 3
FROM PAHO DATA

Location of Government Hospitals, Health Centers, etc. in the Republic of Panama — 1964

DISEASES	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Tuberculosis	1,202	1,740	1,672	1,310	1,259	1,021	826	1,323	1,878	1,885	1,673	1,487
Sifilis	3,737	4,978	1,638	1,198	1,267	1,861	491	535	420	317	312	293
Infección gonorreica	2,837	1,664	2,500	3,002	1,785	1,394	1,092	1,366	871	718	603	603
Chancro blando y otras Inf. Ven.	191	631	298	373	286	264	186	210	52	47	69	93
Fiebre tifídica	24	42	46	38	47	37	33	52	1	4	16	41
F. paratífídica	3	-	1	2	6	10	-	2	1	2	42	12
Brocelosis	1	1	1	2	3	-	-	1	2	2	-	1
Anthrax	378	466	402	234	420	250	326	504	261	320	333	211
Malaria	125	215	159	207	677	201	685	398	784	1,301	645	570
Scorbutina	1	4	1	1	3	-	-	-	-	2	1	-
Difteria	78	97	84	41	33	23	21	34	28	29	28	33
Tosferina	2,042	1,328	435	357	520	524	517	801	379	378	799	301
Inf. meningoccoccia	9	15	10	3	18	25	6	15	11	13	10	10
Lepros	3	-	2	4	9	6	1	12	7	3	-	4
Fitanos	33	37	33	55	55	31	15	30	38	46	89	54
Carbunco	?	?	?	4	1	?	-	1	1	-	-	-
Fiebre Recurrente	-	-	193	171	189	163	144	123	1	-	-	2
Plan. frambesia	243	256	121	26	15	15	9	11	65	11	21	29
Poliendolitis aguda	4	92	-	-	-	-	2	1	1	1	-	-
Endocarditis inf. aguda	-	-	-	-	-	-	-	4	?	1	1	-
Virus	-	-	697	1,298	929	287	738	339	649	1,204	1,976	835
Serpulosis	23	1,221	4	1	1	1	1	1	1	1	-	15
Flebre amarilla	4	2	3	1	-	-	-	1	4	-	5,216	5,017
Broloctosis	9	-	4	1	-	-	-	-	3,393	7,130	3,996	4,463
Paludismo	6,452	3,985	6,766	2,780	6,194	2,849	2,095	2,476	3,922	6,400	2,322	2,667
Antibacteriosis	1,391	1,001	2,316	1,273	3,952	3,088	1,222	1,222	901	3,714	2,367	4,595
Tec Chame	1,075	1,384	1,763	722	2,057	1,367	46	46	62	37	34	42
Leishmaniosis	?	?	?	?	?	28	3	1	3	1	2	1
Trypanosomiasis	?	?	?	?	?	?	?	?	?	?	-	1

Source: Evaluación Sumaria del Desarrollo de la Salud Pública en Panamá 1950-1962
by Attilio Macchiavello Vara 1963

APPENDIX 4

Cases of Contagious Diseases Reported, 1949-1960

DISEASE	PANAMA
Amebiasis	046
Ankylostomiasis	129
Anthrax	062
Botulism	049.1
Brucellosis	044
Chickenpox	087
Diphtheria	056
Dysentery, bacillary	045
Dysentery, other and unspecified	047,048
Encephalitis, acute infectious	082
Erysipelas	062
Filariasis	127
Food poisoning, other	049.0,049.2
Conococcal infection	030-035
Hepatitis, infectious	092
Hydatidosis	125
Influenza	480-483
Leishmaniasis	120
Leprosy	060
Leptospirosis	072
Malaria	110-117
Measles	085
Meningococcal infections	057
Mumps	089
Paratyphoid fever	041
Plague	058
Poliomyelitis, acute	080
Rabies	094
Relapsing fever	071
Rheumatic fever	400-402
Rickettsial diseases, other	102-106
Salmonella infections, other	042
Scarlet fever	060
Schistosomiasis	123
Smallpox	084
Streptococcal sore throat	051
Syphilis	020-029
Tetanus	081
Trachoma	095
Trichiniasis	128
Trypanosomiasis	121
Tuberculosis	001-019
Tularemia	069
Typhoid fever	040
Typhus, flea-borne (murine)	101
Typhus, louse-borne epidemic	100
Whooping cough	066
Yaws	079
Yellow fever	091

APPENDIX 6

"Medicine: Disease of the Cuna Indians", by Dr. Jose Manuel Reverte C.*

The sickness of the Cuna is a punishment sent by their supreme god "Diosaila" who is offended for some reason.

"Diosaila" or "Tiosaila", who is also called "Papa Tummati" is the god creator, the supreme maker, lord of all the universe, the highest of the hierarchy of the Cuna Olympus, the creator of good and of evil, of good spirits or protectors, and of evil or harmful spirits.

Anything can offend Tiosaila (a word composed of the words uncle, god, and sahila, which means chief of cacique. Tiosaila signifies the cacique or chief of all gods) and the result is punishment, one where he permits an evil spirit (poni or nia) to take possession of the soul of the person who is to be punished and becomes a kind of custodian and takes him to hell. The Cuna believe that all visible things have souls.

The evil spirits (they may take various forms, such, for example, as a monster, a hybrid of a dog and a woman) take the soul to the fourth stratum of hell where they live perpetually. Meanwhile the body that remains without a soul suffers a serious disorder, i.e. fever, pain, etc.

The patient will waver between life and death until a protector spirit, the nuchu goes in search of the soul, tearing it away through wisdom and force from the devils in their own abode. But in order for nuchu to complete this marvelous task, the intervention of a nele is required; the latter is generally an old Indian, connoisseur of all of the secrets of nature (abixsua), the person that one consults with about the sickness of a particular Indian. The nele, without ever seeing the afflicted one, will ask those of the household to bring him a few carved dolls of light balsa wood (ukuruala suarmimi) which generally are those nuchu that every Indian has in his home, sometimes boxes full.

The old nele speaks with the nuchu and asks that they tell him the truth of what transpired and that they indicate the place to which the devils carried off the soul of the afflicted one. The nele begs them that they go in search of the soul and revive the body by intervening in favor of the patient, whose good qualities he exalts. Immediately the nuchu leave and go crossing level by level all of hell, until they arrive at the fourth level where they meet with the chief of all the devils, asking him about the probable place where one would encounter the soul of their protoge. But it is not easy to convince the devil and, after an already lengthy discussion, the Nuchu decide to use another method and they begin to smoke the devil's house. There is nothing that displeases the devil more than smoke, and with the power of the good spirits against him, he ends by giving in and confessing where the nia are keeping the robbed soul. There the nuchu go, continuously vomiting smoke and with a battle at times rather violent, they succeed in reviving the soul which they carry with them to the hammock where the poor Indian rallies between life and death; on restoring the soul to the body, all returns to normal.

The protecting spirits have triumphed.

At times the evil spirit wins and the patient dies.

In this last instance, seeing the impossibility of reviving the stolen soul, they dress the dead one in his best clothes, after first adorning him and washing him as in preparation for a festival. He is placed in a hammock and covered with linen.

A specialist in the canticles of the tribe, who is called kantule chants a lengthy litany before members of the family present in which he recounts the life and deeds of the dead one since birth, emphasizing his affinity (kurgin) for hunting, fishing, etc. At the end of the litany, which is recited in a monotone voice, the family and friends pass by the dead one and, leaning over him, they give him advice and orders concerning the way he is to travel in order to leave hell and reach heaven. The kantule accompanies the corpse (the dead body, i.e. without soul, one calls in the Cuna language nahibe or nagibe) till the next day when the latter is carried in the hammock to the Cuna cemetary, consisting of a treeless hill, where they place him with the hammock in a cavity. Vessels and other personal possessions are placed around him, serving him for the long journey he has to take, and they cover him with earth, above which they place vessels of food for the journey; above all

this is placed a roof made of straw or palm leaves.

The ceremony ends with a good meal followed by an abundance of fermented chicha, their favorite fermented beverage made from maize, pineapple, etc.

The Cuna Indian does not believe in the total annihilation of the soul. He believes that after death the person continues doing, although in another world, the same duties that occupied him in this life, and therefore the dead must be provided with all of his tools and with an abundant supply of food.

The nele personally is not always in charge of the cure. There are other abisuas or absogedi (plural) in the area. These are the inatuledi.

The inatuledi do not possess the inherent curative faculties of the nele; but they must develop the talent for curing by means of constant practice and by instruction from some older abisua. Neither does he cure by merely talking with the spirits, but rather by a more rational method, i.e. by means of herbs, roots, or other varied remedies, always accompanied by magic ceremonies such as smoke, chant, etc.

If chanting is the predominant element of his treatment he (inatuledi) is called kantule, and there are song-remedies to cure snake bites, madness, fever, to increase virility, to cure drunkenness, to aid the newborn, to develop certain talents such as the chant, the hunt, the learning of languages, etc.

The consulted inatuledi usually leaves for the mountains where he searches for certain remedies, herbs, roots, bark of trees, stones, which are at times effective, and sitting at the foot of the hammock where the afflicted one lies, he prepares his concoction at the same time that a few grains of ripe cacao and pepper, the terror of the devils, constantly smoke in an earthenware receptacle full of red-hot coals.

The inatuledi administers his remedies by infusion or by way of baths, washings, etc.

Other curative methods involve certain stones called akuadelegana which are collected in a receptacle full of water to which they communicate their curative power at the same time that the inatuledi or nele chant a chant pertinent to the moment. The ceremony ends with the sprinkling of the patient with water.

Among the most frequently used preventive remedies of the Indians is the achiote (Bixa Orellana), called mageba, which protects them from bad spirits, snake bites, and against sickness in general. Against sterility, they use a special clay called napa machi that they find in the banks of the Bayano River. To have long life it is only necessary that they take dust from the antler of a stag deer (koe-pebe). A tea made from the baile-uka tree bark is valued as a headache remedy.